Charon J. Harris
Director - Policy Matters

EX PARTE OR LATE FILED

GTE Service Corporation

1850 M Street, N.W.
Suite 1200
Washington, D.C. 20036-5801
202 463-5294
202 463-5239 - fax

March 6, 1997

Mr. William F. Caton
Secretary
Federal Communications Commission
1919 M Street, NW Room 222
Washington, D.C. 20554

EX PARTE: Federal-State Joint Board on Universal Service (CC Docket No. 96-45)

Dear Mr. Caton:

Professor Paul Milgrom of Stanford University today sent by electronic mail the attached message responding to a suggestion posed by the Office of Plans and Policy's Evan Kwerel regarding the design of an auction for universal service support in the captioned docket. Professor Milgrom sent the electronic message to Greg Rosston, Evan Kwerel, Bill Sharkey, Elliot Maxwell, and Pat Degraba. In accordance with Section 1.1206(a)(1) of the Commission's Rules, an original and two copies of this notice are being filed with the Secretary of the FCC.

Please let me know if you have any questions.

Sincerely,

Charon J. Harris

Attachment
cc: P. Degraba
E. Kwerel
G. Rosston
E. Maxwell
W. Sharkey

No. of Copies rec'd 0+1
List ABCDE

To: <EKWEREL@fcc.gov>,<jrw@crai.com>,<charris@dcoffice.gte.com>,
<emaxwell@fcc.gov>,<grosston@fcc.gov>,<pdebraba@fcc.gov>,
<wsharkey@fcc.gov>,<david_salant@lecg.com>,
<dennis.weller@telops.gte.com>
From: Paul Milgrom <milgrom@stanford.edu>
Cc: <fbulow@GSB-Peso.Stanford.EDU>,<vsorana@leland.Stanford.EDU>,
<mcafee@mundo.eco.utexas.edu>,<j-dana@nwu.edu>,
<k-spier@nwu.edu>,<Barry_Nalebuff@quickmail.yale.edu>,
<vincent@sscl.uwo.ca>
Bcc:
Subject: Re: Universal service auction -Reply
Attachment:
Date: 3/6/97 10:11 AM

Evan:

I am glad to see the discussion moving forward as the forum date approaches.

I agree that if economies of density turn out to be the main cost/entry feature that needs to be accounted for, then a scheme like this could prove attractive. Be aware, though, that this kind of auction does introduce new strategic options into the bidding. An incumbent would weigh the possibility of bidding increasing the spread between its bids as an exclusive provider or as a shared provider (implicitly exaggerating the economies of density) in order to make the exclusive outcome more likely. The desirability of allowing this kind of modification in the auction rules depends, as I had written, on how important the economies of density are and on whether there are other features of the cost function that need to be accounted for.

One feature that I have wondered about is the distinction between wireline and wireless service providers. If two wireline providers are the competing universal service providers and if they share the distribution network, then the economies of density would be much less important than if one of the providers used wireless technology for the "last mile." An auction can, in principle, be designed to account for all such possibilities (the generalized Vickrey auction, or Vickrey-Groves-Clarke mechanism, does so), but such auctions often have other disadvantages, including ones of complexity and discriminatory pricing.

Paul

>Dan Vincent has come up with a modification of the Milgrom
>proposal to address the problem of strong economies of
>density -- cost is very dependent on the number of carriers
>serving the same area. Vincent proposes a simple
>contingent bidding scheme: Bidders put in separate bids for
>each area contingent on the number of auction winners. If,
>for example, there are three applicants, each puts in three
>bids. The FCC then picks the winners and calculates the
>total subsidy payment if there are one, two or three winners,
>as follows. For one winner it picks the lowest bid. For two
>winners it picks the two lowest bids (contingent on two

>decision on how many winners to accept based on a formula
>that trades off the benefits of competition with the level of
>subsidy payments. For example, it might be willing to pay a
>15% premium to go from one to two carriers, and an
>additional 10% premium to go from two carriers to three.
>
>This procedure would reduce uncertainty for bidders and
>would likely result in lower bids. It would also likely result in
>a more efficient choice of the number of carriers since it
>would be based on better information.
>
>